

WHAT IS CLAIMED IS:

1. A hinge comprising:

a frictional body made of resin and having an elongated bearing hole with a tapered inner surface and a center line and at least one lubricant groove cut in the tapered inner surface, having an opening and configured to hold lubricant;

a rotation shaft having a tapered peripheral surface and inserted in the bearing hole of the frictional body;

a tightening tool which moves the rotation shaft and the frictional body relative to each other, thereby to hold the shaft tightly in the bearing hole,

wherein the lubricant groove remains open even when the tapered inner surface is deformed as the shaft exerts a pressing force on the tapered inner surface.

2. A hinge according to claim 1, wherein the transverse cross-sectional shape of the lubricant oil groove is formed to have a substantially V shape.

3. A hinge according to claim 1, wherein the transverse cross-sectional shape of the lubricant oil groove is defined to be made $W > H$ where W denotes the opening width of the oil groove and H denotes the depth of the oil groove.

4. A hinge according to claim 1, wherein the lubricant oil groove is formed to have an elongated shape, the longitudinal direction of the elongated

groove being located along the inner surface of the bearing hole at an angle relative to the center line of the frictional resin body.

5 5. A hinge according to claim 1, further comprising a metal collar tightly fitted on the outer periphery of the frictional resin.

6. A hinge according to claim 2, wherein the transverse cross-sectional shape of the lubricant oil groove has its opening angular edges radiused.

10 7. A hinge according to claim 2, wherein the lubricant oil groove is formed to have an elongated shape, the oil groove being located along the inner surface of the bearing hole at an acute angle relative to the center line of the frictional resin body.

15 8. A hinge according to claim 3, wherein the transverse cross-sectional shape of the lubricant oil groove has its opening angular edges radiused.

9. A hinge comprising:

20 a frictional body made of resin and having an elongated bearing hole with a tapered inner surface and a center line and at least one lubricant groove cut in the tapered inner surface, having an opening and configured to hold lubricant;

25 a rotation shaft having a tapered peripheral surface and inserted in the bearing hole of the frictional body;

a tightening tool which moves the rotation shaft

and the frictional body relative to each other, thereby
to hold the shaft tightly in the bearing hole,

a spring member provided in a compressed state
between the frictional body and the tightening tool;

5 wherein the lubricant groove remains open even
when the tapered inner surface is deformed as the shaft
exerts a pressing force on the tapered inner surface.

10. A hinge according to claim 9, further
comprising:

10 a fixed washer arranged on a bearing body side and
a rotation washer arranged on a rotation shaft side,
wherein the spring member is located between the fixed
washer and rotation washer

11. A hinge according to claim 9, further
15 comprising a metal collar tightly fitted over the outer
periphery of the frictional resin body.

12. A hinge according to claim 10, wherein the
spring member is comprised of a seat spring, the seat
spring being so located that the seat spring is
20 tightened between the fixed washer and the rotation
washer to a collapsed, flattened state.

13. A hinge comprising:

25 a frictional body made of resin and having an
elongated bearing hole with a tapered inner surface and
a center line and at least one lubricant groove cut in
the tapered inner surface, having an opening and
configured to hold lubricant;

a rotation shaft having a tapered peripheral surface and inserted in the bearing hole of the frictional body;

5 a tightening tool which moves the rotation shaft and the frictional body relative to each other, thereby to hold the shaft tightly in the bearing hole,

wherein the lubricant groove remains open even when the tapered inner surface is deformed as the shaft exerts a pressing force on the tapered inner surface,
10 and the tightening tool includes a screw provided on the rotation shaft and a nut set in mesh with the screw.

14. A hinge according to claim 13, wherein the transverse cross-section shape of the lubricant oil
15 groove is formed to have a substantially V shape.

15. A hinge according to claim 13, wherein the transverse cross-section shape of the lubricant oil groove is defined to be made $W > H$ where W denotes the opening width of the oil groove and H denotes the depth
20 of the oil groove.

16. A hinge according to claim 13, wherein the transverse cross-section shape of the lubricant oil groove has its opening angular edges radiused.

17. A hinge according to claim 13, wherein the
25 lubricant oil groove has an elongated shape, the longitudinal direction of the elongated lubricant oil groove being located along the inner surface of the

lubricant hole at an acute angle relative to the center line of the frictional body.

18. A hinge according to claim 13, wherein the lubricant oil groove is formed to have an elongated
5 shape, the oil groove being located along the inner surface of the bearing hole at an angle relative to a center line of the frictional body.